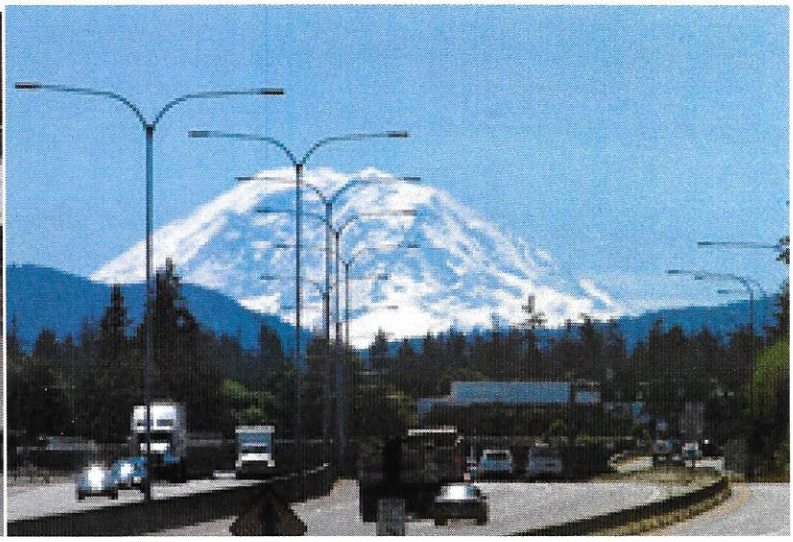

Redmond

ANJUMAN-E-BURHANI COMMUNITY COMPLEX
TRAFFIC AND PARKING LETTER – 2016 UPDATE – R1

December 20, 2016

JTE . Jake Traffic Engineering, Inc.
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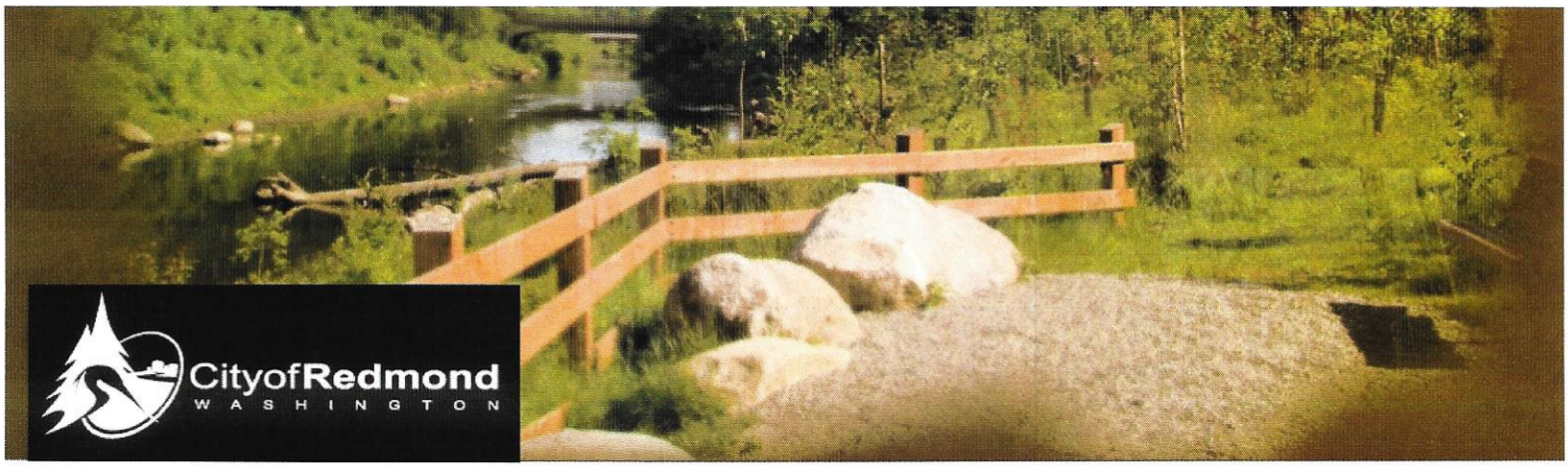

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December 20, 2016

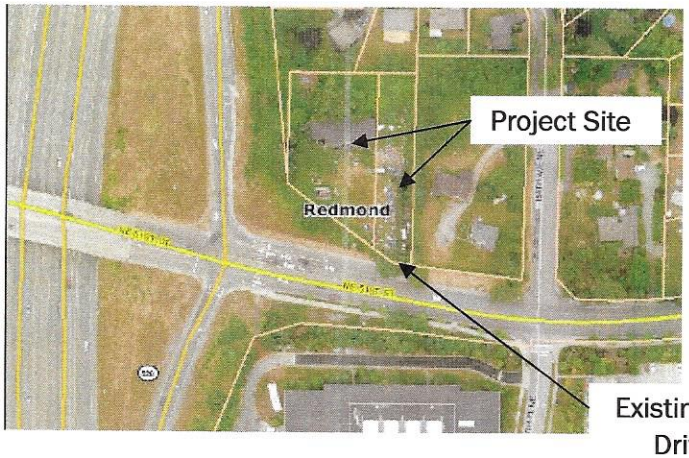
ANJUMAN-E-BURHANI SEATTLE
Attn: Eliyas Yakub
c/o Donn Stone, Architect
ROLLUDA ARCHITECTS
105 South Main Street
Seattle, WA 98104

Re: Anjuman-E-Burhani Community Complex – Redmond
Traffic and Parking Letter – 2016 Update – R1

Dear Mr. Yakub,

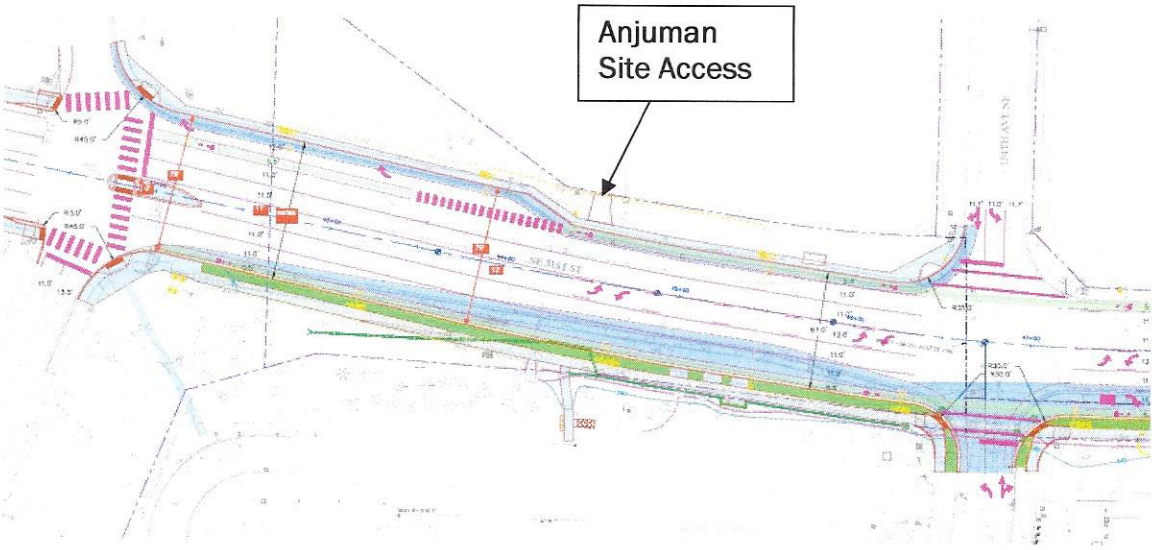
I have prepared this Traffic and Parking Letter – 2016 Update R1 (minor corrections to the 12.05.2016 submittal) for the proposed Anjuman-E-Burhani Community Complex project located in Redmond. This letter updates Anjuman-E-Burhani Community Traffic and Parking Letter – Update 2, March 15, 2014. Prior reports include Anjuman-E-Burhani Community Complex Site Access Traffic Letter (WSDOT Comments), June 5, 2012 and the Anjuman-E-Burhani Community Traffic and Parking Letter – Update, May 28, 2013

Below is an aerial of the site obtained from King County IMap:



The proposed project is envisioned to initially serve up to 60 worshipers and eventually would accommodate up to 147. The site is generally located northeast corner of the SR – 520/NE 51st St. interchange. Access to the site is via an existing driveway on NE 51st Street.

The update is to reflect the site plan refinements, minimal and to incorporate City comment regarding site access. City planning is to widen NE 51st Avenue to 5-lanes from the current 4-lanes. See sketch below:



The existing driveway currently serves a single family home that is to be removed to make way for the proposed mosque project. WSDOT purchased access rights to NE 51st St. in conjunction with the SR – 520 development. The proposed Anjuman-E-Burhani Community Complex site has no other access to the City street grid.

A meeting with WSDOT occurred on April 14, 2012 to discuss the situation. I have attached the meeting minutes to this letter. WSDOT requested that a Traffic Impact Study be prepared and delivered to them for their review. I understand that a copy of my **working draft** Anjuman-E-Burhani Community Complex Trip Generation Study/Transportation Concurrency September 21, 2011 was provided to WSDOT. The projected peak hour traffic (6 – AMPHT's and 6 – PMPHT's) associated with the proposed Mosque facility are well below the WSDOT trip threshold for traffic study, see below. The refined peak hour trips, discussed later in this letter, are 12 AM and 12 PM peak hour trips.

Chapter 4 Analyzing Land use Proposals in the WSDOT Developer Services Manual, September 2005 provides thresholds for determining probable significant adverse impact. Section 4.1.05 Vehicular Trip Thresholds is noted below:

4.1.05 Vehicular Trip Thresholds

> WSDOT will typically request that mitigation take the form of either construction of a highway improvement (which often includes the donation/dedication of property for right of way purposes) or contribution of a traffic mitigation payment to a programmed (funded or nearly funded) WSDOT project. On some occasions WSDOT may request both.
>
> WSDOT will consider any development that meets or exceeds either or both of the following vehicular trip criteria to have a probable significant adverse impact to the state highway system.
>
> - Fee-based mitigation: Addition of ten (10)[4] or more AM or PM peak-hour vehicle trips to any state highway intersection or segment of state highway for the purpose of determining whether a traffic mitigation payment (pro-rata share) to a planned and/or programmed WSDOT project should be requested.
> - Non fee-based mitigation: Addition of twenty five (25)[4] or more AM or PM peak-hour vehicle trips to any state highway intersection or access connection for the purpose of determining whether a developer funded, designed, and constructed highway improvement should be requested.

I am not aware of any WSDOT projects in the site vicinity that would be affected by 10 or more site generated PM peak hour trips.

The City of Redmond typical traffic effect threshold is 20 or more project generated trips PM peak hour one way trips through a signalized intersection.

Initial project dialogue with Redmond and Anjuman-E-Burhani Community identified that the access driveway would be limited to right turn in/out only. WSDOT requested assurance that the right in/out operation be preserved. The installation of 'c' curbing on the centerline of NE 51st St. at the site driveway would enforce the right turn in/out operation. This is the planning until such time the City completes the street widening project.

The following provides the envisioned Anjuman-E-Burhani Community Complex Trip Generation and usage (updated subsequent to Anjuman-E-Burhani Community Complex Site Access Traffic Letter (WSDOT Comments)) based on more refined site planning and uses information.

SITE PLAN

As provided to me, the following are depicted on the current plan dated 04.01.2016. A copy of the site plan is included with this letter.

The refined development data is as follows:

Total Parking = 36 stalls

At complete build-out:

Level 0: Storage = 2,520 SF
Level 1: mosque, multi-purpose, support spaces, guest apartment = 11,325 SF
Level 2: classrooms, parsonage, mosque mezzanine = 8,811 SF

Total area of above = 22,657 SF
Foot print of Level 1 = 10,409 SF

Parking for 36 vehicles is provided. Access to the site is via a proposed an existing driveway on NE 51st St. that is to be limited to right ingress and egress only. The Parsonage is expected to occupy about 1,417 sf of space. A guest apartment on level 1 is 605 sf

The refined project envisions 22,657 sf of facility space including the guest quarters and parsonage versus the initial planning of about 16,030 sf noted in the June 5, 2012 report. The net facility space without the living space is 21,240 square feet.

PROJECT INFORMATION

Figure 1 is a vicinity map which shows the location of the site and the surrounding street system. The preliminary site is depicted on Figure 2 plan that shows the layout of the proposed 22,657 sf facility.

The net facility space without the living space is 21,240 square feet. Parking for 36 vehicles is provided. Access to the site is via an existing driveway, to be upgraded to current standards, on NE 51st Street.

Activities Schedule

The following is the projected site utilization as provided by the Anjuman-E-Burhani Community.

The Anjuman-E-Burhani Complex, Sept 1, 2011/RAI Utilization Patterns

We are a small community of about 60 households (families and singles) and a total of approximately 150 people. About 60% work at Microsoft and a vast majority live in the Redmond, Sammamish and surrounding areas on the East side.

Most of our activities are during the weekends and off-peak hours during the weekdays, since majority of the community consists of working adults and school going children.

At any given event we get about 50% rate of participation from the community members. There are about 3-4 days per year where we get higher participation.

Typical utilization over the course of a year includes:

- *Friday Congregational Prayer – typically a small gathering of approx 10-20 people, most of whom work at Microsoft.* **The facility would not provide the traditional Friday Congregational Prayer due to time conflict with the US business week[1].**
- *Saturday school 9:00 AM – 2:00 PM (approximately 9 months of the year). All teachers are volunteers and are parents of the school kids.*
- *Approximately twice a month usually 7:00 PM – 9:00 PM: gathering of about 20 families.*
- *Ramadan - One 30 consecutive day period per year. Nightly gathering from dusk for about 3 hours.*
- *One 10 day period per year. Nightly gathering from 7:00 PM – 10:00 PM.*
- *Other sporadic events about once a month such as a birthday party or gathering for organizing volunteer events for the Puget Sound community at large.*

Activities for Anjuman-E-Burhani- Seattle – Three Year Projections

Daily:

Please note that while these events are listed as potential daily events, the expected frequency of occurrence is 3-5 events per week (all events combined).

EVENT	*TIMING*	*ATTENDEES*	*COMMENTS*
Morning prayers	*Summers: 5:00 – 6:00am* *Winters: 6:00 – 7:00am*	*5-10*	
Afternoon prayers	*Between 1:00 – 2:00pm*	*5-10*	
Evening prayers	*Summers: 8:00 – 9:00pm* *Winters: 4:00 – 5:00pm*	*5-10*	

Weekly:

EVENT	TIMING	ATTENDEES	COMMENTS
Friday afternoon prayers	1:00pm – 2:00pm	10-20	
Saturday school	9:00am – 2:00pm	40 – 60	

Special Events:

EVENT	TIMING	ATTENDEES	COMMENTS
Month of Ramadan (one 30-day period per year): 2013 – July 8th – Aug 6th 2014 – June 28th – July 17th 2015 – June 17th – July 16th	Summers: 8:00 – 10:00 pm Winters: 4:00 – 6:00 pm	75 - 150	*Morning and afternoon prayers attendance would be similar to other times of year. Larger number of people would attend evening prayers on weekends and on 5 "special" nights.*
Special congregation: 2013 – Nov. 13th 2014 – Nov. 2nd 2015 – Oct. 22nd	10:00am – 6:00 pm 10:00am – 6:00pm 10:00am – 7:00pm	150 - 200	All-day event
Community Meetings	Summers: 7:00 – 9:00pm Winters: 4:00 – 7:00pm	50-100	Once or twice a month

[1] Reference April 14, 2012 meeting notes attached.

Full development of the proposed Anjuman-E-Burhani Community Complex project is anticipated to occur by 2017, pending permit approval

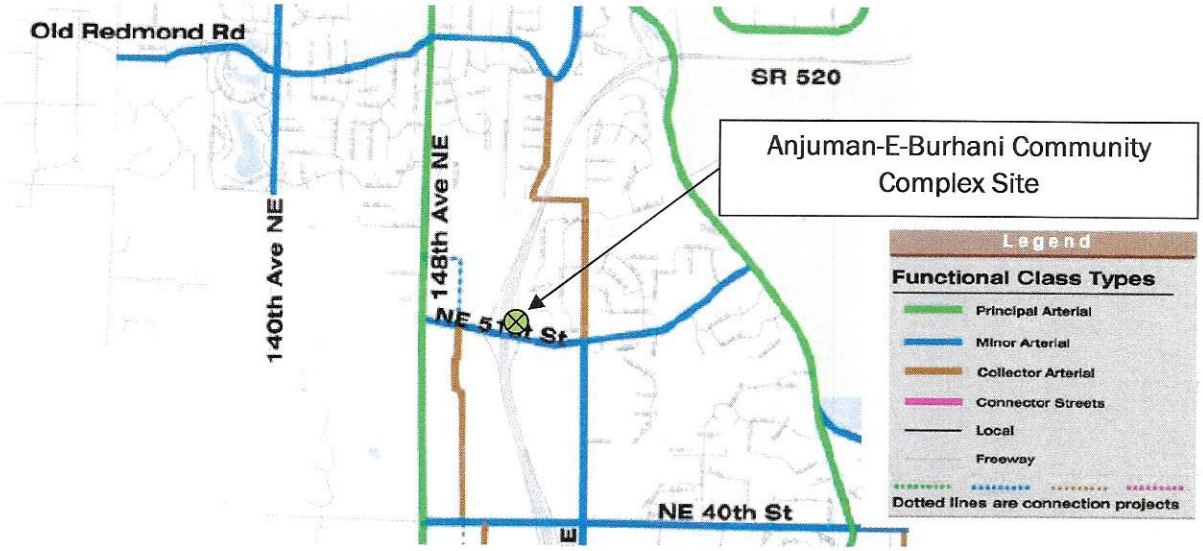
EXISTING ENVIRONMENT

Project Site

The site is presently developed with a single family dwelling unit that would be removed to make way for the proposed project.

Street System

The primary streets and their classifications in the site vicinity per the City of Redmond Transportation Master Plan Roadway Functional Master Plan Figure 5D.12 (snapshot of the site vicinity) is depicted below:



Alternative Transportation

I have reviewed the Metro Transit website (transit.metrokc.gov) for bus services in the vicinity of the proposed development. Bus routes 221, 230, 242 and 245 provide service in the vicinity of the proposed development. Further information on these routes can be obtained from the website.

TRIP GENERATION AND DISTRIBUTION

Definitions

A vehicle trip is defined as a single or one direction vehicle movement with either the origin or destination (exiting or entering) inside the proposed development.

Traffic generated by development projects consists of the following types:

Pass-By Trips:	Trips made as intermediate stops on the way from an origin to a primary trip destination.
Diverted Link Trips:	Trips attracted from the traffic volume on a roadway within the vicinity of the generator but which require a diversion from that roadway to another roadway in order to gain access to the site.
Captured Trips:	Site trips shared by more than one land use in a multi-use development.
Primary (New) Trips:	Trips made for the specific purpose of using the services of the project.

Trip Generation

The proposed Anjuman-E-Burhani Community Complex project is expected to generate the vehicular trips during the average weekday, street traffic AM and PM peak hours as shown in Table 1. The trip generation for the project is calculated using trip rates from the Institute of Transportation Engineers (ITE) Trip Generation, 9th Edition for Church (ITE Land Use Code 560), Apartment (LUC 220) for the guest quarters and Storage (LUC 150). All site trips made by all vehicles for all purposes, including commuter, visitor, and service and delivery vehicle trips are included in the trip generation values.

The ITE data includes one data point for a Mosque that I reviewed. Based on my review the data point is not relevant for the subject project. The Anjuman facility is to serve small congregation of members only.

The Anjuman-E-Burhani Community Complex includes 1,417 sf for a residence for the Imam and his family. Traffic from the residence is netted out to reflect the site is developed with a single family dwelling unit that is to be removed from the site.

The Anjuman-E-Burhani Community Complex is not a typical church land use. The ITE Trip Generation does not contain a land use that would directly fit the Anjuman-E-Burhani Community Complex use. The Anjuman-E-Burhani Community Complex holds numerous prayer type services throughout the day depending on the time of day. However for analysis purposes, the church land use would best fit the proposed community. A church per the ITE is described as follows:

> *"A church is a building in which public worship services are held. A church houses an assembly hall or sanctuary; it may also house meeting rooms, classrooms and, occasionally, dining, catering, or party facilities."*

The Anjuman-E-Burhani Community Complex provides similar rooms to the ones mentioned above as depicted for a church land use. Thus a church land use is used for this analysis.

The Anjuman-E-Burhani Community Complex would generate the most trips on a Saturday or Sunday event such as a Wedding. The trip rate associated with the Sunday peak is used to estimate the peak hour trips generated during a peak event. A small gathering, reflective of the US work schedule, for Friday Prayer at the Anjuman-E-Burhani Community Complex would occur in the early afternoon. Ten to 20 members would attend, many of whom work nearby.

The Friday Prayer occurs outside the PM peak hour (one service either held from 12:30 – 1:30 pm or 1:30 – 2:30 pm depending on daylight savings). The traffic associated with a Friday Congregational Prayer is 9 trips using ITE per seat data (average 15 worshippers x 0.61 trips/per seat (worshipper)

The sunset prayer attended by 10 – 20 worshippers would fall into the PM peak during some portions of the year (reference afternoon prayer schedule in the appendix). Taking the average, 15 worshippers would attend the afternoon prayer that would generate 9 peak hour trips as noted for the Friday Prayer. During some portions of the year these trips would overlap with the PM street traffic peak hour.

Based on our analysis the proposed Anjuman-E-Burhani Community Complex project would add 12 net new PM peak hour trips during the typical weekday. During the days when the sunset prayer is during the PM peak an additional 9 trips could be added.

SITE ACCESS REVIEW

Sight Lines

I conducted a field review of the site and reviewed the site access. Northeast 51st Street has 4 travel lanes (2 – EB and 2 – WB) at the proposed access with a posted speed limit of 35 MPH.

Table 1 – F and 1 – I in the City of Redmond Exhibit E Appendix: Construction Specifications and Design Standards for Streets and Access – v4 provide sight line criteria for the stopping and entering sight distance, respectively. The City's design criterion uses the posted speed limit + 10 MPH. The City's Tables are noted below:

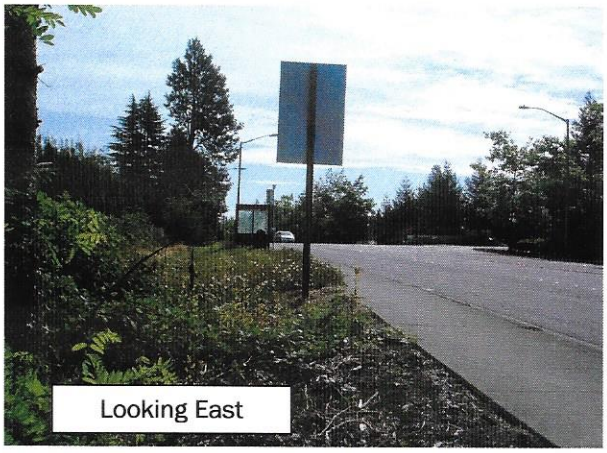
Table 1-F

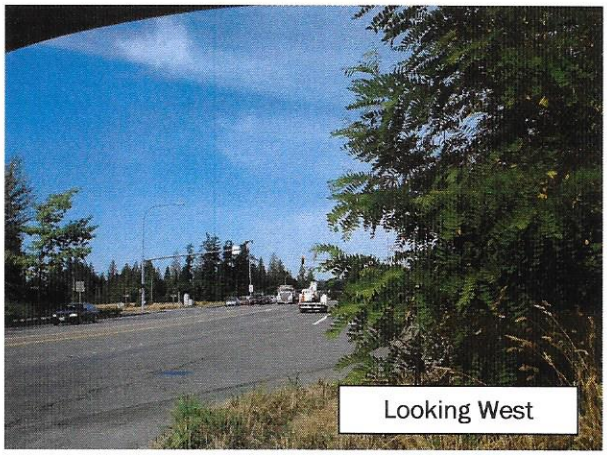
Design Speed (mph)	Stopping Sight Distance (ft)*
25	155
30	200
35	250
40	305
45	360
50	425
55	495

Table 1-I

Design Speed (mph)	Entering Sight Distance (ft)*
25	280
30	335
35	390
40	445
45	500
50	555
55	610

The following are pictures that were taken at the site access onto NE 51st Street:





By inspection (with pruning of vegetation) the City sight lines criteria are met to and from the west.

The sight line to and from the east is affected by street geometrics and a bus stop. My field measurements indicate that about 360' of SSD is provided and the ESD is about 300' due to a bus shelter. Relocating the bus shelter and vegetation pruning would enhance the sight line. Stopping sight distance is the more critical value. Field measurements indicate that the City's conservative SSD sight line value (posted speed limit + 10 MPH) of 360' is provided at the existing driveway for a design speed of 45 MPH; the posted limit is 35. Sight lines to and from the west meet criteria (with minor pruning, see photo).

Field measurements were done (using a measuring wheel) of the sight lines at the NE 51st St./site access intersection. The vertical and horizontal curvature affects the sight lines to and from the west. The following table details the field measurements:

NE 51st St./site access	EB Motorist approaching I/S	WB Motorist approaching I/S	Redmond Criteria	
			35 MPH (posted)	45 MPH (design)
SSD (ft.)	360+	~360'	250'	360'
ESD (ft.)	Egress motorist looking left (to the east)	Egress motorist looking right (to the west)	390'	500'
	~300' (bus shelter) ~430' (relocate bus shelter/prune vegetation)	500'+		

The City's ESD sight line values are based on the American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways an Streets, 2001 Fourth Edition "Exhibit 9-55" that is for left turning traffic. ASSHTO data can also be analyzed by movement.

The site access is to be limited to right turning movements only via the installation of 'C' curbing on the centerline of NE 51st St. per applicable criteria initially. The ASSHTO ESD for a right turning is 430 feet (for a 45 MPH speed).

In the future the City has plans to widen NE 51st Street that would provide a two way left turn lane. This widening would facilitate left turning into and out of the site. The recommended sight line for a crossing maneuver, aka left turn from and to the TWLTL, is 430 feet.

Summarizing:

Review of the existing driveway indicates that appropriate sight lines exist with appropriate vegetation pruning. The existing bus stop location needs to be relocated out of the sight line and some vegetation pruned. The City has plans to widen NE 51st Street in the future. Pending timing the City project would relocate the bus stop and likely improve sight lines.

Access Operational Review

The City requested that an operational review of the site access be conducted. Per City feedback a Turning Movement Count was conducted at the nearby 154th Ave.-Pl. NE/NE 51st St. intersection on 12.01.2016, copy attached. The data indicates about 780 (778) WB and 705 (703) eastbound traffic volume using NE 51st Street adjacent to the Anjuman facility.

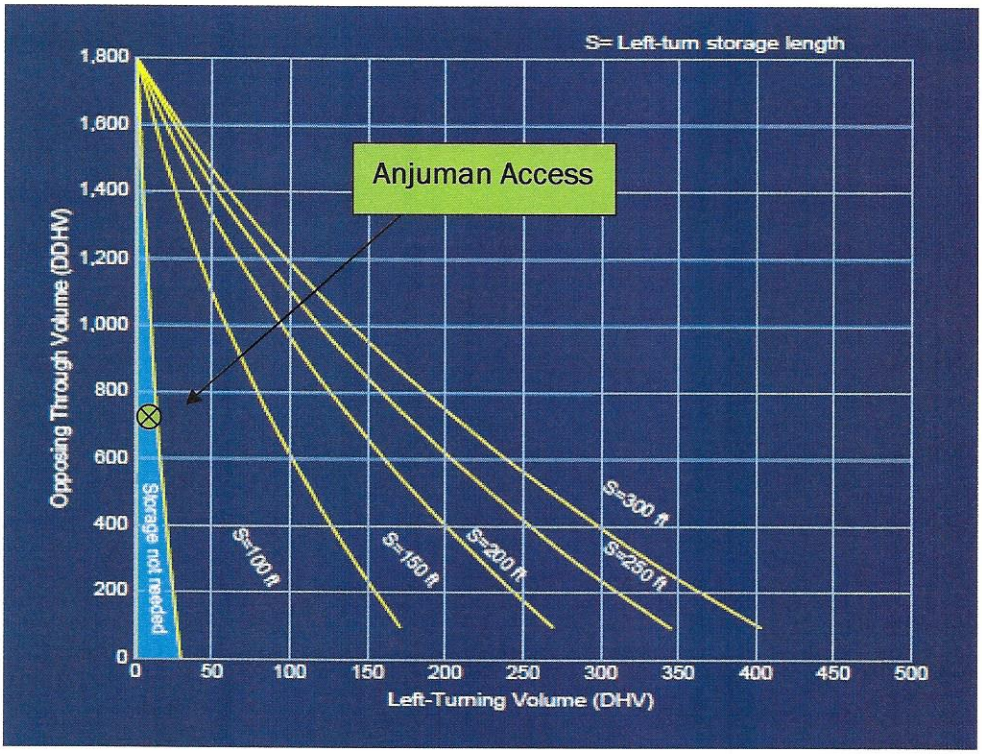
The peak Anjuman traffic is projected at 21 PMPHT's during some portions of the year. Conducting a conservative analysis I presumed 16 trips in and 16 out, 15 in and 15 of the outbound trips were presumed to be left turning. The resulting level of service is 'C' for the SB site egress movement. The EB to NB left turn into the site would operate at LOS 'A'.

I also conducted an operational review based on the existing four lane geometrics. The SB site egress traffic (left turning) would operate at LOS 'D' and the ingress left turn at LOS ' A'.

Left Turn Analysis

The City requested a Left Turn Lane Warrant analysis be conducted. WSDOT Design Manual Exhibit 1310-7b Left Turn Storage Guidelines: Four Lane, Unsignalized is reviewed. The opposing peak hour traffic volume on NE 51st Street is about 800 vph. The site left turn traffic is nominal and the projected LOS is 'A' for the ingress left turn movement, thus consideration for allowing left turn ingress at the site access under existing conditions is appropriate, see WSDOT exhibit below:

Exhibit 1310-7b Left-Turn Storage Guidelines: Four-Lane, Unsignalized



The City has plans to widen NE 51st Street to 5-lanes in the future, allowing full access under the existing 4-lane street condition is technically feasible based on operational and WSDOT guidelines.

PARKING ANALYSIS

The proposed project (Anjuman-E-Burhani) is required to provide a minimum number of parking stalls to meet the City of Redmond Land Use and Zoning Code. The requirements for parking are outlined in RZC Table 21.08.080C - Allowed Uses and Special Regulations.

Per the Zoning Code, one stall is required per five seats. The Anjuman-E-Burhani contains two large assembly areas. One is the prayer hall located on the main floor, providing 81 seats and a balcony on the second floor providing 66 seats. The combined number of seats for these two areas is 147. The other large assembly area is the Multi-Purpose area. The participants using the prayer area will be the same as those using the multi-purpose area. Schedule-wise, the Multi-purpose area and Prayer area are not used simultaneously with the exception of special events.

Parking requirements based on the Zoning Code at one stall per five seats would equate as follows:

1. Prayer Area: 147/5 = 30 stalls

For special events, parking must be considered for both large assembly areas as the two spaces may be in use at the same time. The multi-purpose space could seat up to 210 thereby requiring an additional 42 parking stalls. Combined parking requirements would therefore be 72 stalls.

1. Prayer Area: 147/5 = 30
2. Multipurpose: 210/5 = 42

Per the Redmond Zoning Code, 29 parking stalls must be provided for normal use.
For special events, a total of 71 parking spaces must be provided. The attached site plan shows a total of 36 vehicular parking stalls and with the additional 29 valet parking a total of 65.

Summarizing:

The proposed Anjuman-E-Burhani Community project provides 36 parking stalls that meet the City of Redmond parking requirements. Redmond Zoning Code requires a Traffic Mitigation Plan to mitigate overflow parking into residential areas. A TMP has been submitted to the City. A copy is attached to this letter.

The 36 stalls provides sufficient on-site parking for maximum attendance at 200 for special events (200/5 = 40). However, for the rare special occasions where the parking demand will exceed the parking supply the Anjuman-E-Burhani community will employ a Transportation Management Plan (TMP) to mitigate overflow parking. This plan will employ a system of family carpooling and the use of shuttle buses to and from public park and ride facilities.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

I have prepared this Traffic and Parking Letter – Update 2 to bring up to date the prior site traffic research to reflect the site plan refinements and to incorporate additional information on site access per the City planning to widen NE 51st St. to 5-lanes. The project is calculated to generate up to 12 net new PM peak hour trips; and during some portions of the year 9 Sunset Worshiper trips would also occur during the PM peak hour that would disperse to the streets in the site vicinity. During portions of the year the afternoon prayer would coincide with the PM peak hour. During these times an additional 9 PM peak hour trips is projected.

The projected site traffic is well below the City of Redmond and WSDOT Developer Services Manual threshold to conduct traffic operational analysis.

Review of the site access and per analyses and Agency input indicates that allowing full access with the existing street geometrics would operate satisfactorily. The re-location of an existing bus stop is needed to improve sight lines. The City's 5-lane street plan, pending timing, would better facilitate all turning movements at the access. Also the City's street widening would relocate the bus stop.

Redmond Zoning Code was reviewed for required parking. The site plan depicts 36 parking stalls that meet the City requirements. However, during rare special events times such as large weddings will require that Anjuman-E-Burhani Community employ a TMP to mitigate overflow parking. The TMP plan will employ a system of family carpooling and the use of shuttle buses to and from public park and ride facilities.

Based on my review the proposed site use is appropriate for the property. The proposal is a low traffic generator during typical street peak times. I recommend the City allow the project with the following Traffic and Parking Mitigation:

- Construct the site and site access to City/WSDOT requirements
- The City indicated that standard street frontage improvements could apply.
- Pay the City any applicable Traffic Impact Fees.
- The entering sight distance to the east at the site access does not meet the City Code requirement. A deviation request will need to be prepared and submitted to the City.
- Update the TMP if required by the City

If you have any questions you can contact me at 206.762.1978 or email me at jaketraffic@comcast.com.

EXPIRES 4/3/2018

Very truly yours,

Mark J. Jacobs, PE, PTOE, President
JAKE TRAFFIC ENGINEERING, INC.

12.20.2016

MJJ: mjj

VEHICULAR TRIP GENERATION

TABLE 1

ANJUMAN-E-BURHANI COMMUNITY COMPLEX – REDMOND
TRAFFIC AND PARKING LETTER – UPDATE 2

TIME PERIOD	TRIP RATE	TRIPS ENTERING	TRIPS EXITING	TOTAL
A. Church (ITE Land Use Code 560; 18,115 sf) – Net New (space for Parsonage[2], Apartment and Storage not included).				
Average Weekday	T = 9.11X	83 (50%)	82 (50%)	165
AM Peak Hour	T = 0.56X	6 (62%)	4 (38%)	10
PM Peak Hour	T = 0.55X	5 (48%)	5 (52%)	10
Event Peak Hour[3] (weekend/holiday)	T = 11.76X	106 (50%)	107 (50%)	213
B. Apartment (ITE Land Use Code 220; 1 – unit)				
Average Weekday	T = 6.65X	3 (50%)	4 (50%)	7
AM Peak Hour	T = 0.51X	0 (20%)	1 (80%)	1
PM Peak Hour	T = 0.62X	1 (65%)	0 (35%)	1
Saturday Peak Hour	T = 0.52	N/A	N/A	~1
C. Storage (ITE LUC 150, 2,520 sf)				
Average Weekday	T = 3.56X	4 (50%)	5 (50%)	9
AM Peak Hour	T = 0.30X	1 (79%)	0 (21%)	1
PM Peak Hour	T = 0.32X	0 (25%)	1 (75%)	1
Saturday Peak Hour	T = 0.13X	0 (64%)	0 (36%)	0
Total A + B + C				
Average Weekday	–	90	91	181
AM Peak Hour	–	7	5	12
PM Peak Hour	–	6	6	12
Weekend Peak Hour	–	107	107	214

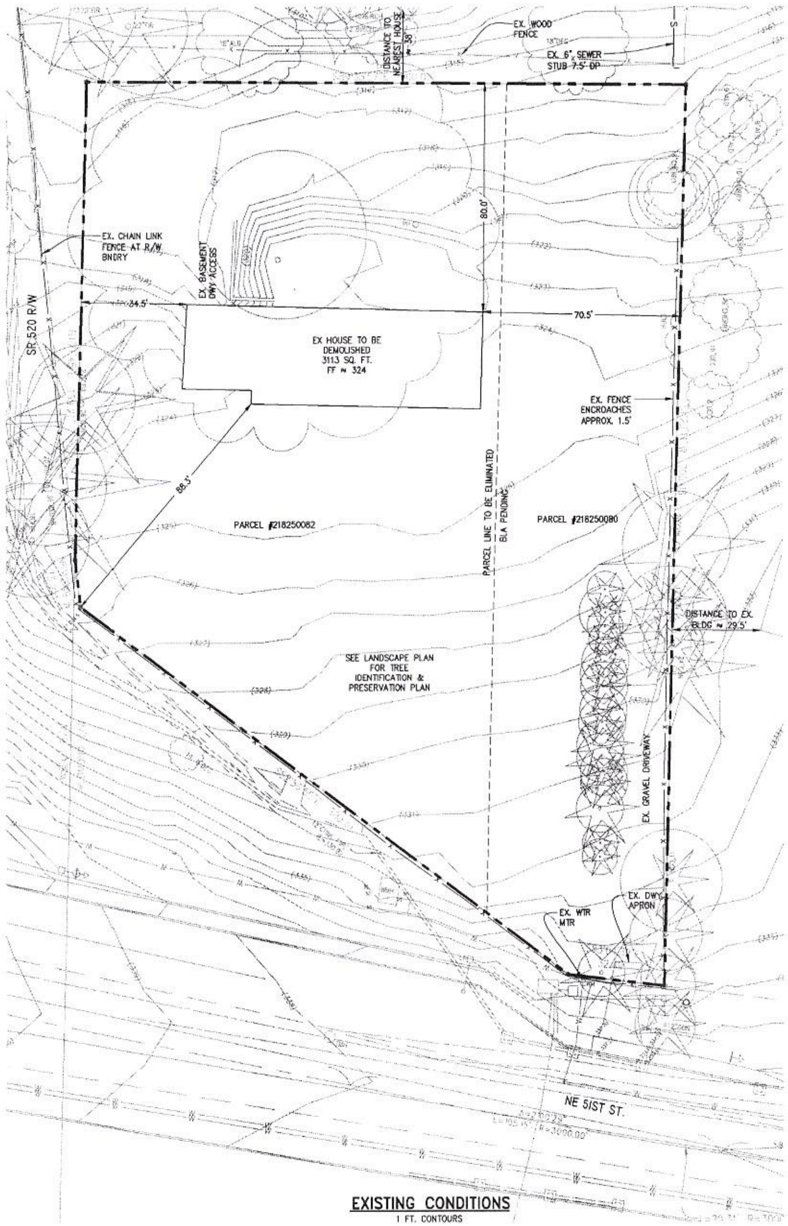
T = trips
X = 1,000 sq. ft. or # of units

A vehicle trip is defined as a single or one direction vehicle movement with either the origin or destination (exiting or entering) inside the study site. The above trip generation values account for all the site trips made by all vehicles for all purposes, including commuter, visitor, recreation, and service and delivery vehicle trips.

---

[2] not included to account for existing SFDU on the site
[3] the ITE Trip Generation LUC 560 Sunday peak hour data used

SECTION 14, TOWNSHIP 25 NORTH, RANGE 5 EAST, W.M.

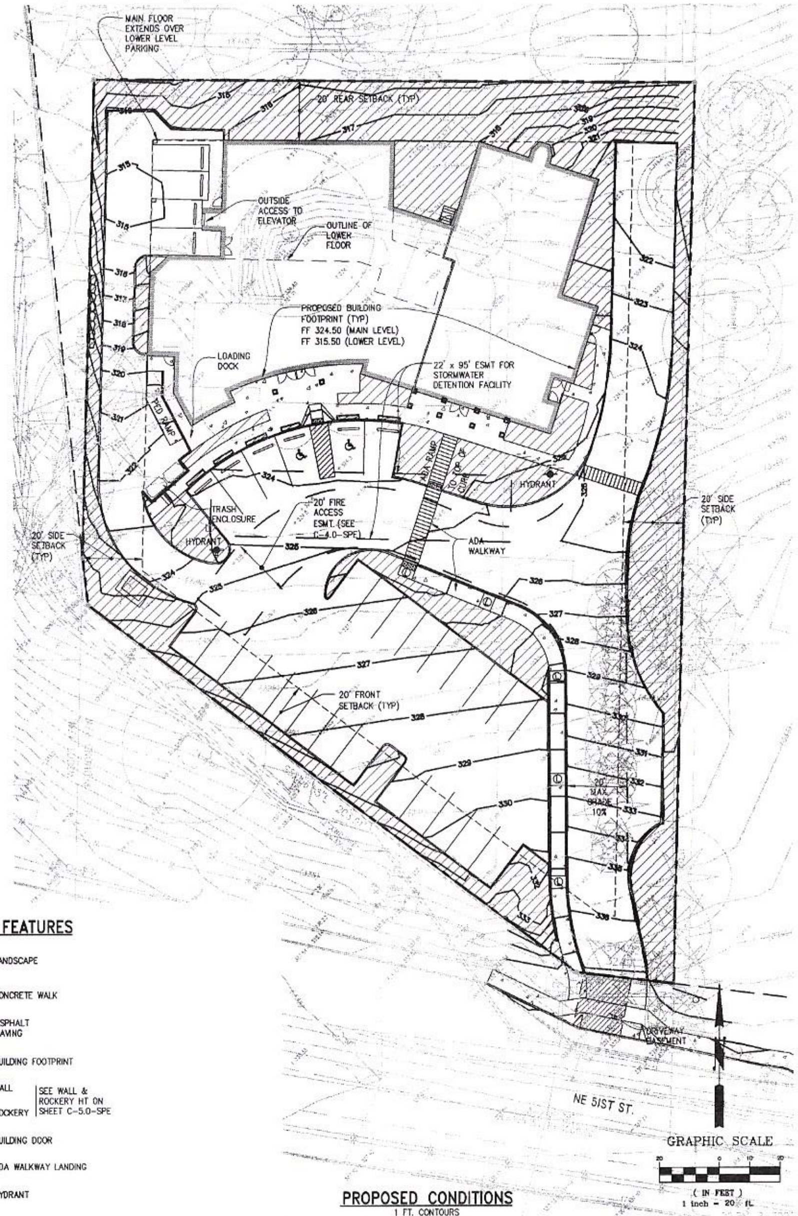


EXISTING CONDITIONS

1 FT. CONTOURS

PROPOSED FEATURES

[hatched]	LANDSCAPE
[box]	CONCRETE WALK
[box]	ASPHALT PAVING
[line]	BUILDING FOOTPRINT
[line]	WALL — SEE WALL & ROCKERY HT ON SHEET C-5.0-SPE
[line]	ROCKERY — SEE WALL & ROCKERY HT ON SHEET C-5.0-SPE
[symbol]	BUILDING DOOR
[symbol]	ADA WALKWAY LANDING
[symbol]	HYDRANT



PROPOSED CONDITIONS

1 FT. CONTOURS

PROGRESS PRINT (NOT FOR CONSTRUCTION)

These drawings have been released at the request of the client and are not intended for the purposes of bidding, permitting, or construction.

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DARREN A. SIMPSON — STATE OF WASHINGTON — 27556 — REGISTERED PROFESSIONAL ENGINEER — 1/29/14

SEATTLE MASJID ANJUMAN E BURHANI

15252 NE 51st St.
Redmond, WA 98052

OWNER
ANJUMAN E BURHANI
15252 NE 51ST ST.
REDMOND, WA 98052
(425) 443-9520
ALIAHABIB@GMAIL.COM

REVISION	DATE

Design:	JWC
Drawn:	JWC/RH
Checked:	DAS
DCI Project No.	12-120006

Issuance
SITE PLAN ENTITLEMENT
4-1-2016

Drawing Title
SITE PLAN

Drawing Number
C-1.1-SPE

APPENDIX

Mark J Jacobs, PE, PTO

From: Min Luo [mluo@redmond.gov]
Sent: Monday, October 24, 2016 11:27 AM
To: Mark J Jacobs, PE, PTO
Cc: Sarah Vanags; Paulette M. Norman; 'Ali Aamer Habib'
Subject: AEB Traffic Requirements
Follow Up Flag: Follow up
Flag Status: Red
Attachments: 20161007-51st Roll Plot.pdf

Hi Mark,

Thanks for joining the conference call today. Here is a brief summary regarding updating the traffic study analysis:

- Update the traffic study date as current date. If you refer to any previous studies or memos, please attach as appendices. ✓
- Per WSDOT left-turn analysis guideline, provide a right-in/right-out/left-turn in warrant analysis. ✓
- Update the sight line analysis, considering the City's latest plan, see the attached file. Please note that the City's plan may not have the standard required frontage improvement on the north side of 51st St. The frontage improvements would usually require to be done the applicant. ✓
- Since you are collecting traffic counts to do the left-turn warrant analysis, could you perform a quick LOS analysis for the site access point with right-in/right-out and left-in control? ~~City date used~~ updated to use new TMC per City comment

Please let me know if I miss any items.

Thanks,

Min Luo, P.E., PTOE, PTP
Senior Engineer, Transportation | City of Redmond
☎: 425.556.2881 | ✉: mluo@redmond.gov | Redmond.gov
MS: 2SPL | 15670 NE 85th St | Redmond, WA 98052

From: Eliyas Yakub [mailto:eliyasy@microsoft.com]
Sent: Friday, November 18, 2016 4:50 PM
To: Mark J Jacobs, PE, PTO; 'Donn Stone'
Cc: 'Alex Rolluda'; Ali Haveliwala (ahaveliwala@gmail.com)
Subject: RE: 2011.037 - Hearing outcome and next steps

Jake/Donn, Here is the feedback from the city on your draft. Can we get 3, 4 and 5 addressed?

From: Min Luo [mailto:mluo@redmond.gov]
Sent: Friday, November 18, 2016 3:46 PM
To: Eliyas Yakub <eliyasy@microsoft.com>
Cc: Rob Crittenden <RCRITTENDEN@REDMOND.GOV>; Paulette M. Norman <pmnorman@redmond.gov>; Sarah Vanags <svanags@redmond.gov>
Subject: Review Comments on Anjuman-E-Burhani Community Complex Traffic and Parking Letter 2016 Update

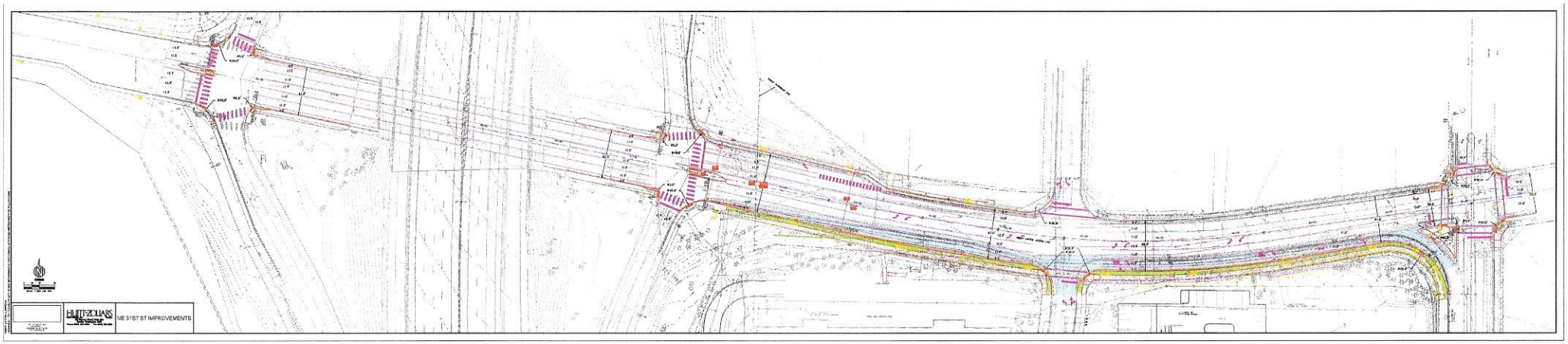
Eliyas,

The City has reviewed the Anjuman-E-Burhani Community Complex Traffic and Parking Letter 2016 Update (DRAFT) and has the following comments:

1. **Right-in/Right-out Access**: we understand you previously got approval from WSDOT to have right-in/right-out only for the driveway access; however, the City's planned improvement will have a two-way left-turn lane along NE 51st Street and the left-turn analysis also shows allowing left-turn in would be desirable; in addition, allowing left-turn in would take care of the concerns from the residents regarding potentially unsafe U-Turn at NE 51st St/154th Ave NE due to left-turn in restricted at the driveway. Based on these facts, we will need to re-confirm with WSDOT if the right-in/right-out access is still the only option. The City will send a copy of your traffic study to WSDOT to get re-confirmation after you get a chance to address the following comments and update the traffic study.
2. **Relocation of Bus Shelter**: It depends on the timing of your project and the City's project. If your project is going first, you may be required to send a request to Metro to have the bus shelter relocated. If the City's project is going first, the City may work with Metro to get it relocated.
3. **Sight Distance Directions**: The east and west direction is reversed. For example, looking left from the driveway should be to the east, not to the west; the bus stop should be to the east, not to the west. Please have those directions corrected in the section and in the table on page 9.
4. **Entering Sight Distance**: The entering sight distance to the east does not meet the code requirement. Please submit a deviation request.
5. **Traffic Count Data**: It sounds like the traffic count data you are using is more than three years old. The City strongly recommends you collect the existing traffic counts to avoid public questioning the quality and validity of the traffic data.

Thanks,

Min Luo, P.E., PTOE, PTP
Senior Engineer, Transportation | City of Redmond
☎: 425.556.2881 | ✉: mluo@redmond.gov | Redmond.gov
MS: 2SPL | 15670 NE 85th St | Redmond, WA 98052


NE 51ST ST IMPROVEMENTS

Washington State Department of Transportation
Paula J. Hammond, P.E.
Secretary of Transportation

Northwest Region
15700 Dayton Avenue North
P.O. Box 330310
Seattle, WA 98133-9710

206-440-4000 / Fax 206-409-7250
TTY: 1-800-833-6388
www.wsdot.wa.gov

August 24, 2012

Thara Johnson, Associate Planner
City of Redmond Planning and Community Development
15670 NE 85th Street
PO Box 97010
Redmond, WA 98073-9710

Subject: SR 520 MP 10.74 (NE 51st St Interchange vic)
Anjuman E Burhani (AEB) Mosque

Dear Ms. Johnson:

When we were contacted by Mark Jacobs of Jake Traffic Engineering back in March 2012 regarding this development, we told Mr. Jacobs that WSDOT maintains the Limited Access in this area and that any revision to the current roadway geometrics will need to be reviewed and approved WSDOT. After our meeting with the AEB, we have discovered that the turnback document we provided Mr. Jacobs during our correspondence with him is different from the correct one noted on the right of way (ROW) plan.

Per the Access and Hearing Plan, this area was conveyed to the City of Redmond back in March 12, 1991. Per the attached Quitclaim deed, WSDOT conveyed all rights, title and interest to the property to the City of Redmond for road purposes only. However, the deed was executed in accordance to the General Maintenance Agreement #501 (GM 501, see attached) that was executed on August 7, 1969. In this agreement, the City agreed to 'protect' the control of access as indicated by the hachured line.

While WSDOT no longer owns the limited access (LA) rights to the area, the City is still obligated to follow design requirements concerning existing LA facilities. As such, if WSDOT were to allow a new access due to the change in use, we would require the following:

1. The access must be designed per WSDOT Road Approach Design Template D1 (Exhibit 1340-5). The standard design will allow one design vehicle to enter the driveway while a second design vehicle is waiting to exit the driveway without interfering with the mainline operations.
2. The site access along NE 51st St must be restricted to right-in/right-out only due to its close proximity to the SR 520 eastbound ramps. Curbing/Raised median shall be installed on NE 51st St to prohibit any left-in/left-out movements to or from the property.

3. It was stated in the Traffic Study Supplement that "the sight line to and from the east is affected by street geometrics and bus stop" and the recommendation is to "potentially re-locating an existing bus stop" for better sight lines. The City required SSD and ESD must be met per design speed and the proposed modification must be evaluated and implemented to ensure adequate sight distances for the proposed access location.
4. Any geometry changes must be reviewed for approval. All required applicable channelization must be shown per WSDOT Northwest Region Channelization Plan Checklist. Note that if the channelization changes do not extend into WSDOT R/W, then no channelization plan for WSDOT review will be required, but WSDOT would still like the opportunity to look at the plans.
5. Since there is a change in use, a value determination for a commercial use as well as for a wider driveway, per Chapter 530.10 of WSDOT Design Manual (see attached), must be prepared because WSDOT only granted a 14-foot Type A single family driveway to the original property owner when the rights to the parcel were purchase back in in February 20, 1974. However, since the LA area is vested in the City, all appraisals and real estate reviews must be conducted by the City. Any revenues resulting from the valuation shall be placed in the City's road/street fund and the revenue shall be used exclusively for road purposes, per the Quitclaim deed.

If you have any questions, or require additional information, please contact Felix Palisoc of our Local Agency and Development Services section at 206-440-4713, or via e-mail at palisof@wsdot.wa.gov.

Sincerely,

Ramin Pazooki
Local Agency and Development Services Manager

RP:fsp

Attachments: Judgment and Decree (original ROW take)
General Maintenance Agreement (GM) 501
Quitclaim Deed
ROW Plan (SR 520, Northrup Interchange to Jct. SR 202, Sheet 11 of 16)
WSDOT Design Manual (Chapter 530.10 and Exhibit 1340-5)

cc: Day File / Project File
R. Roberts (King Area Traffic)
Anjuman E Burhani
D. Stone (Rolluda Architects)

Design vehicle	Time gap (s) at design speed of major road (t_g)
Passenger car	6.5
Single-unit truck	8.5
Combination truck	10.5

Note: Time gaps are for a stopped vehicle to turn right onto or cross a two-lane highway with no median and grades 3 percent or less. The table values require adjustment as follows:

For multilane highways:
For crossing a major road with more than two lanes, add 0.5 seconds for passenger cars and 0.7 seconds for trucks for each additional lane to be crossed and for narrow medians that cannot store the design vehicle.

For minor road approach grades:
If the approach grade is an upgrade that exceeds 3 percent, add 0.1 seconds for each percent grade.

Exhibit 9-57. Time Gap for Case B2—Right Turn from Stop and Case B3—Crossing Maneuver

Metric				US Customary			
		Intersection sight distance for passenger cars				Intersection sight distance for passenger cars	
Design speed (km/h)	Stopping sight distance (m)	Calculated (m)	Design (m)	Design speed (mph)	Stopping sight distance (ft)	Calculated (ft)	Design (ft)
20	20	36.1	40	15	80	143.3	145
30	35	54.2	55	20	115	191.1	195
40	50	72.3	75	25	155	238.9	240
50	65	90.4	95	30	200	286.7	290
60	85	108.4	110	35	250	334.4	335
70	105	126.5	130	40	305	382.2	385
80	130	144.6	145	45	360	430.0	430
90	160	162.6	165	50	425	477.8	480
100	185	180.7	185	55	495	525.5	530
110	220	198.8	200	60	570	573.3	575
120	250	216.8	220	65	645	621.1	625
130	285	234.9	235	70	730	668.9	670
				75	820	716.6	720
				80	910	764.4	765

Note: Intersection sight distance shown is for a stopped passenger car to turn right onto or cross a two-lane highway with no median and grades 3 percent or less. For other conditions, the time gap must be adjusted and required sight distance recalculated.

Exhibit 9-58. Design Intersection Sight Distance—Case B2—Right Turn from Stop and Case B3—Crossing Maneuver

Prepared for: **Eliyas Yakub/Jake Traffic Engineering, Inc.**

Traffic Count Consultants, Inc.

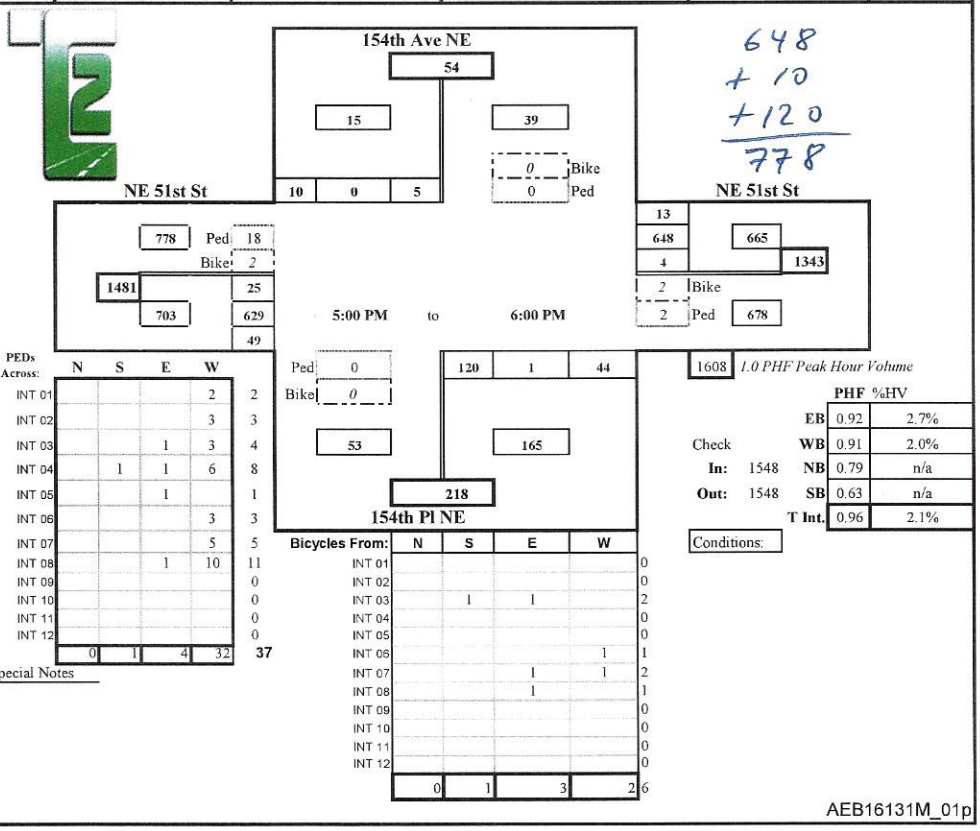
Phone: (253) 926-6009 FAX: (253) 922-7211 E-Mail: Team@TC2inc.com

WBE/DBE

Intersection: 154th Ave/Pl NE & NE 51st St **Date of Count:** Thurs 12/01/2016

Location: Redmond, Washington **Checked By:** Jess

Time Interval	From North on (SB) 154th Ave NE				From South on (NB) 154th Pl NE				From East on (WB) NE 51st St				From West on (EB) NE 51st St				Interval Total
Ending at	T	L	S	R	T	L	S	R	T	L	S	R	T	L	S	R	
4:15 P	0	1	0	3	0	13	1	6	3	1	139	1	4	4	102	11	282
4:30 P	1	0	0	5	0	16	0	6	4	1	148	0	4	6	108	12	302
4:45 P	0	0	0	2	0	31	0	8	6	2	141	1	8	7	117	15	324
5:00 P	0	0	0	1	0	26	0	10	4	0	143	2	5	2	129	16	329
5:15 P	0	1	0	0	0	33	1	18	3	2	181	0	6	4	139	10	389
5:30 P	0	0	0	3	0	26	0	11	4	1	173	4	4	4	152	18	392
5:45 P	0	2	0	3	0	29	0	9	2	1	135	1	5	9	164	12	365
6:00 P	0	2	0	4	0	32	0	6	4	0	159	8	4	8	174	9	402
6:15 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	1	6	0	21	0	206	2	74	30	8	1219	17	40	44	1085	103	2785
Peak Hour: 5:00 PM to 6:00 PM																	
Total	0	5	0	10	0	120	1	44	13	4	648	13	19	25	629	49	1548
Approach	15				165				665				703				1548
%HV	n/a				n/a				2.0%				2.7%				2.1%
PHF	0.63				0.79				0.91				0.92				0.96



648
+ 10
+120
778

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Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	15	705	800	1	15	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	766	870	1	16	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	871	0	-	0	1286	435
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	416	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	770	-	-	-	156	569
Stage 1	-	-	-	-	370	-
Stage 2	-	-	-	-	634	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	770	-	-	-	153	569
Mov Cap-2 Maneuver	-	-	-	-	275	-
Stage 1	-	-	-	-	370	-
Stage 2	-	-	-	-	621	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	770	-	-	-	284
HCM Lane V/C Ratio	0.021	-	-	-	0.061
HCM Control Delay (s)	9.8	-	-	-	18.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

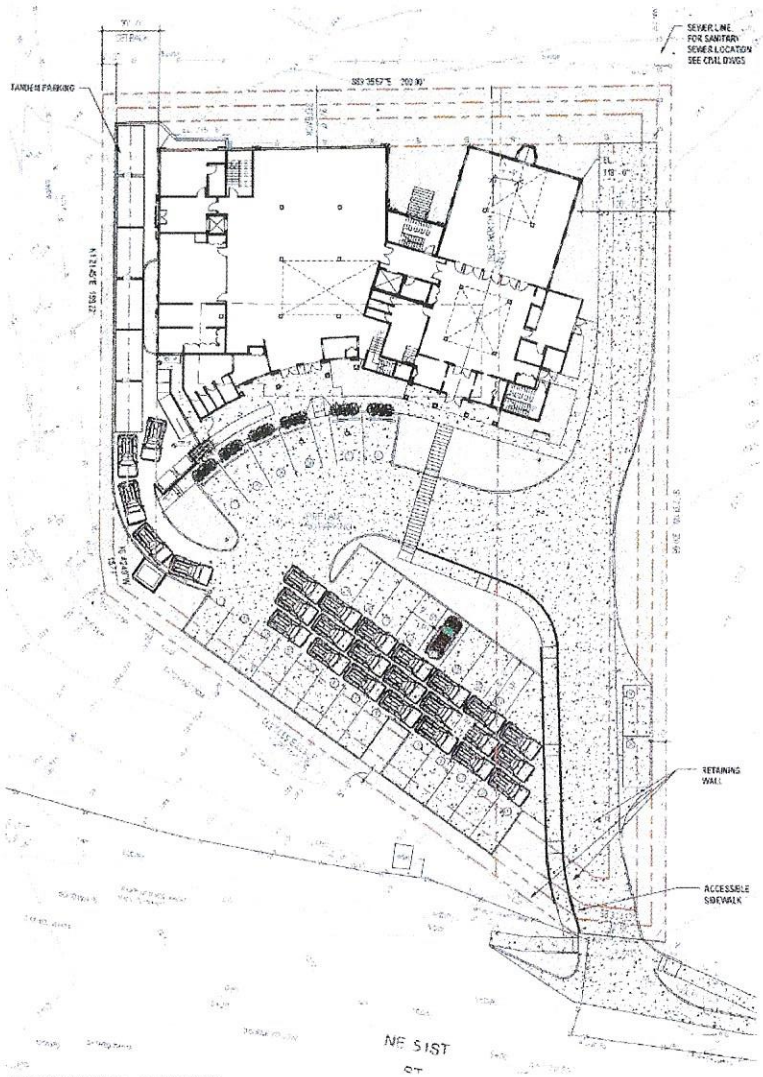
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	15	705	800	1	15	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	766	870	1	16	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	871	0	-	0	1286	435
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	416	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	770	-	-	-	156	569
Stage 1	-	-	-	-	370	-
Stage 2	-	-	-	-	634	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	770	-	-	-	150	569
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	370	-
Stage 2	-	-	-	-	611	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	30.8
HCM LOS			D

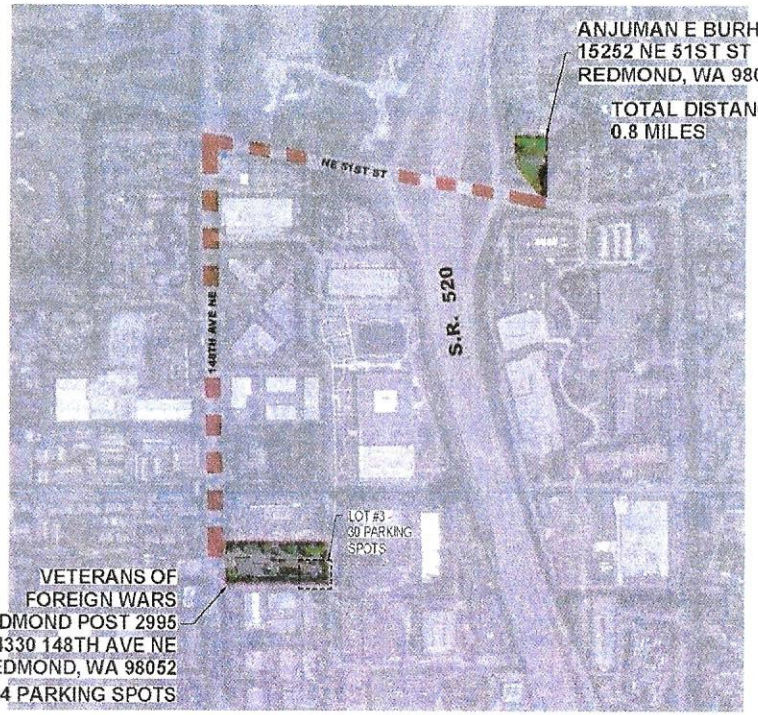
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	770	-	-	-	157
HCM Lane V/C Ratio	0.021	-	-	-	0.111
HCM Control Delay (s)	9.8	0.2	-	-	30.8
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4



VALET PARKING - MAXIMIZED

VEHICULAR PARKING:	36
ADDITIONAL TANDEM PARKING:	29
TOTAL:	65

1 SITE PLAN - OVERFLOW PARKING



2 OFF-SITE PARKING

rolluda architects

SEATTLE MASJID
ANJUMAN E BURHANI
15252 NE 51ST ST,
REDMOND, WA 98052

owner
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ALIAHABIB@GMAIL.COM

SITE PLAN
ENTITLEMENT

OVERFLOW
PARKING

A1.04